

AN 543-05 Back Creek Nature Park
Consistency Report

MSA-S-1829-4757

Robert L. Ehrlich, Jr.
Governor

Michael S. Steele
Lt. Governor



Martin G. Madden
Chairman

Ren Serey
Executive Director

**STATE OF MARYLAND
CRITICAL AREA COMMISSION
CHESAPEAKE AND ATLANTIC COASTAL BAYS**

1804 West Street, Suite 100, Annapolis, Maryland 21401
(410) 260-3460 Fax: (410) 974-5338
www.dnr.state.md.us/criticalarea/

October 18, 2006

Sally Nash, Ph.D.
City of Annapolis
Office of Planning and Zoning
160 Duke of Gloucester Street
Annapolis, Maryland 21401

RE: AN 543-05 Back Creek Nature Park: Stormwater Education Experience

Dear Dr. Nash:

Thank you for providing updated information on the above referenced project. I have reviewed the changes to the 10% worksheet based on the July 28, 2006 comments submitted by Regina Esslinger. It appears that the pollutant removal requirement is met.

We concur with the City of Annapolis's determination that the above referenced project is consistent with the City's Critical Area program. If you have any additional questions please call me at 410-260-3481.

Sincerely,

A handwritten signature in black ink, appearing to read "J. Lester", with a long horizontal flourish extending to the right.

Jennifer B. Lester
Natural Resources Planner

Robert L. Ehrlich, Jr.
Governor

Michael S. Steele
Lt. Governor



Martin G. Madden
Chairman

Ren Serey
Executive Director

**STATE OF MARYLAND
CRITICAL AREA COMMISSION
CHESAPEAKE AND ATLANTIC COASTAL BAYS**

1804 West Street, Suite 100, Annapolis, Maryland 21401
(410) 260-3460 Fax: (410) 974-5338
www.dnr.state.md.us/criticalarea/

September 28, 2005

Mr. Tom Smith
Senior Planner
City of Annapolis Planning and Zoning
160 Duke of Gloucester Street
Annapolis, MD 21401

RE: Back Creek Nature Park Consistency

Thank you for providing "Notification of Certification" that the above project is consistent with the City of Annapolis' Critical Area Program. This office understands that the City is proposing to make improvements to the shoreline and the adjacent slope at the Back Creek Nature Park. The City is proposing a marsh restoration that involves filling, grading, and planting marsh vegetation along 490-linear feet of eroding shoreline with 207 cubic yards of clean sand placed within a maximum of 22 feet channelward of the mean high water line. They are also placing a 490 feet "biolog" and stone sill within a maximum of 25 feet channelward of the mean high water line. The second phase involves stabilization of an eroding bank along the lagoon.

The park sits on one parcel that is 8.65 acres with 8.11 acres in the Resource Conservation Area (RCA) and the remaining 0.54 acres is in the Intensely Developed Area (IDA). The purpose of this project is to alleviate an existing erosion problem in the Buffer, as well as restore a functioning living shoreline around the lagoon.

Critical Area Commission staff understands:

1. That there will be no new impervious surface coverage;
2. That there will be no disturbance in the Buffer beyond the slope stabilization.
No trees or other vegetation will be removed;
3. That no stormwater management is required for this project;
4. That there are no Habitat Protection Areas of concern on Back Creek Nature Park;
and,

Continued, Page Two
Back Creek Nature Park Consistency
September 15, 2005

5. That this project proposes to stabilize an eroding Buffer and add a living shoreline to the lagoon.

The Commission staff has determined that the above proposed development: 1) has environmental or economic consequences that will largely be confined to the immediate area of the site on which the development is located, 2) does not substantially affect the Critical Area program of the local jurisdiction, and 3) is not considered by the Commission as major development. (*See COMAR: Chapter Two, Regulations for Development in the Critical Area Resulting from State and Local Agency Programs*).

Therefore, approval of the above project by the Commission is not necessary. If there are any changes in development that may affect the habitat within the area on site, this office would like to be notified immediately at (410) 260-3483.

Sincerely,



Dawnn McCleary
Natural Resources Planner

cc: Regina Esslinger
AN 543-05

AW 543-05



City of Annapolis
DEPARTMENT OF PLANNING AND ZONING

Municipal Building, 160 Duke of Gloucester Street, Annapolis, Maryland 21401
Annapolis 410-263-7961 • Baltimore 410-269-0064 • Washington 301-261-1388 • Fax 410-263-1129 • TDD 410-263-7943

Chartered 1708
JON ARASON, AICP
DIRECTOR

RECEIVED

AUG 10 2005

CRITICAL AREA COMMISSION

August 5, 2005

Chesapeake Bay Critical Area Commission
Attn: Ms. Dawnn McCleary
1804 West Street, Suite 100
Annapolis, MD 21401

Regarding: Consistency Review for Improvements to Back Creek Nature Park

Dear Ms. McCleary:

The City of Annapolis is proposing to make improvements to the lagoon shoreline and the adjacent slope at the Back Creek Nature Park. At this time, the Department of Planning and Zoning has determined that this project is consistent with the requirements of the City's Critical Area Program. We would appreciate your review and comments on our determination.

Project Description

Back Creek Nature Park is located off of Edgewood Road in the City of Annapolis. A good portion of the park borders Back Creek. The Park sits on one parcel that is 8.65 acres. 8.11 acres are in the Resource Conservation Area (RCA), and the remaining 0.54 acres is in the Intensely Developed Area (IDA). The 100-foot buffer along this park is non-BEA.

The currently proposed project is twofold. First, the project is proposing a marsh restoration that involves filling, grading, and planting marsh vegetation along 490 LF of eroding shoreline with 207 cubic yards of clean sand emplaced within a maximum of 22 feet channelward of the mean high water line, and emplace 490 feet of "biolog" and stone sill within a maximum of 25 feet channelward of the mean high water line. Second, the project will stabilize an eroding bank along the lagoon using Filtrexx materials.

Imperviousness

No new impervious coverage is being added as a part of this project. This park overall complies with the impervious surface coverage limits for the RCA lands and the IDA lands. The RCA portion of the site has approximately 32,870 square feet of existing impervious, which equals a 9.3% coverage. There will be no new imperviousness associated with this project, and the imperviousness will remain at 9.3%. The IDA portion of the park has 1,873 square feet of existing impervious surface coverage, which equals a 7.9% coverage. There will be no new imperviousness associated with this project, and the imperviousness will remain at a 7.9% coverage.

Ms. Dawnn McCleary
August 5, 2005
Page 2

Buffer Management Plan

A buffer management plan is not necessary for this project. No trees or other vegetation will be removed, and there will be no disturbance to the buffer beyond the slope stabilization work. All of the work will take place from a barge.

Stormwater Management

The City's Critical Area Program does not require stormwater management for a project of this magnitude in the RCA, especially when no new imperviousness is being added.

Habitat Protection Areas

As evidenced in the letter from the Wildlife and Heritage Service, there are no HPA's of concern in Back Creek Nature Park.

MDE Permitting

The letter indicating approval of the necessary MDE permit is enclosed.

Sedimentation & Erosion Control

This project is serving to stabilize an eroding buffer and add a living shoreline to the lagoon. Due to the nature and location of the work, conventional sedimentation and erosion control techniques are not suitable or particularly necessary.

Negative Impacts

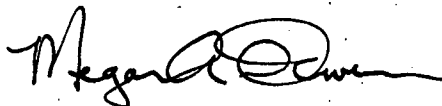
No Habitat Protection Areas, besides the 100-foot buffer, will be harmed during this project.

Positive Impacts

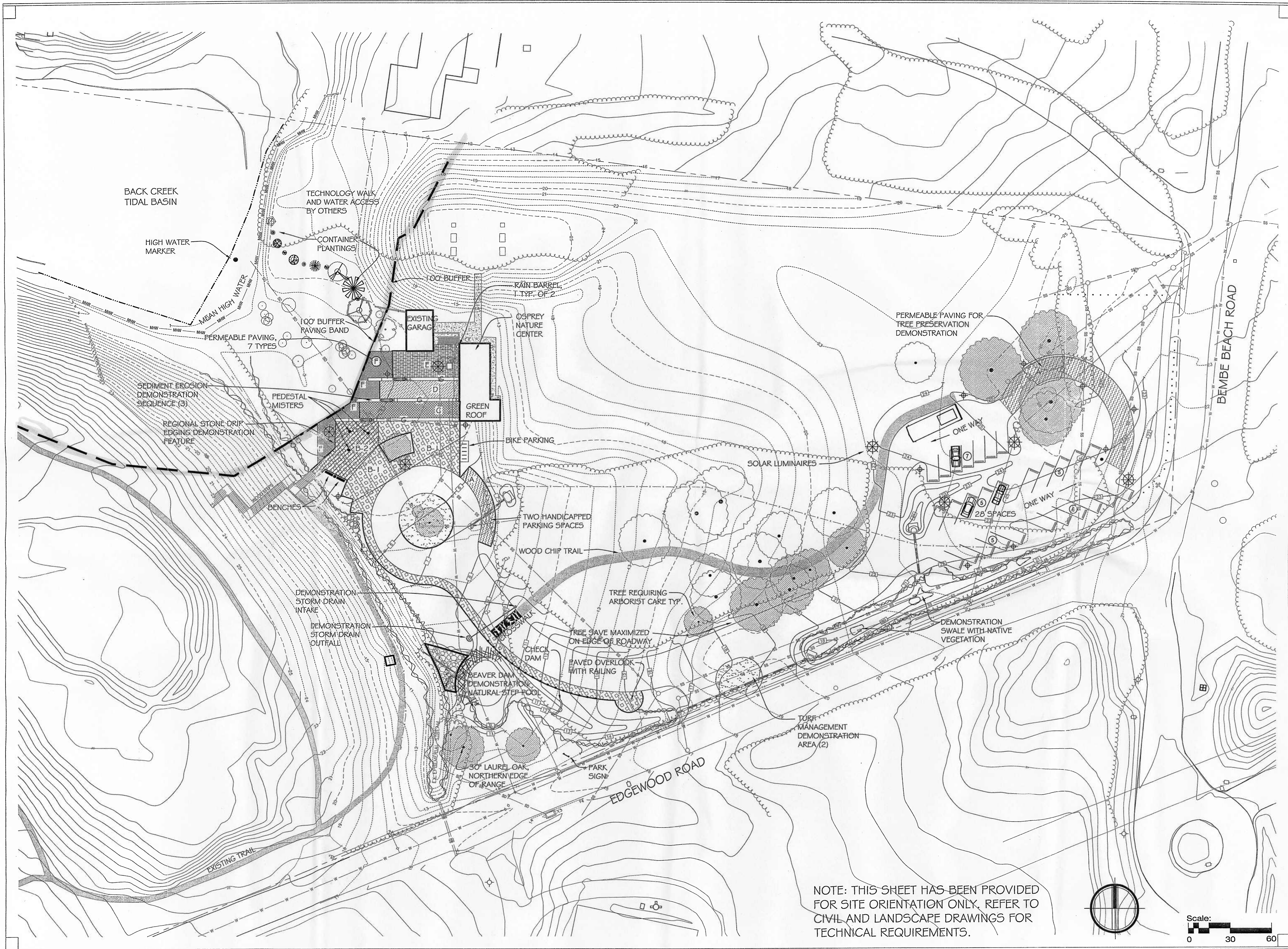
The anticipated end-result of this project is to alleviate an existing erosion problem in the buffer, as well as, restore a functioning living shoreline around the lagoon.

Your help on this project is sincerely appreciated. Should you have any questions, please do not hesitate to call Tom Smith at 410-263-7961.

Sincerely,



Megan A. Owen, AICP
City Planner



NOTE: THIS SHEET HAS BEEN PROVIDED FOR SITE ORIENTATION ONLY, REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR TECHNICAL REQUIREMENTS.

**STORMWATER EDUCATION EXPERIENCE
BACK CREEK NATURE PARK**
Tax Map 1 2Z, Block 1 1, Parcel 285
Edgewood Road
City of Annapolis, Maryland
Third District Anne Arundel County

REVISIONS

The above drawings and specifications and the ideas represented thereby are and shall remain the property of the Landscape Architect. No part thereof shall be copied or used in connection with any work or project or by any other person for any purpose other than for the specific project for which they have been prepared and developed without the written consent of the Landscape Architect.

**O'DOHERTY GROUP
LANDSCAPE
ARCHITECTURE**
91 Cathedral Street, Annapolis, MD 21401
Tel 410.269.4101 or 866.500.4102

Bay Engineering Inc.
Engineers, Planners and Surveyors
190 Admiral Cochrane Drive, Suite 175
Annapolis, Maryland 21401
410.897.9290
410.897.9295 fax

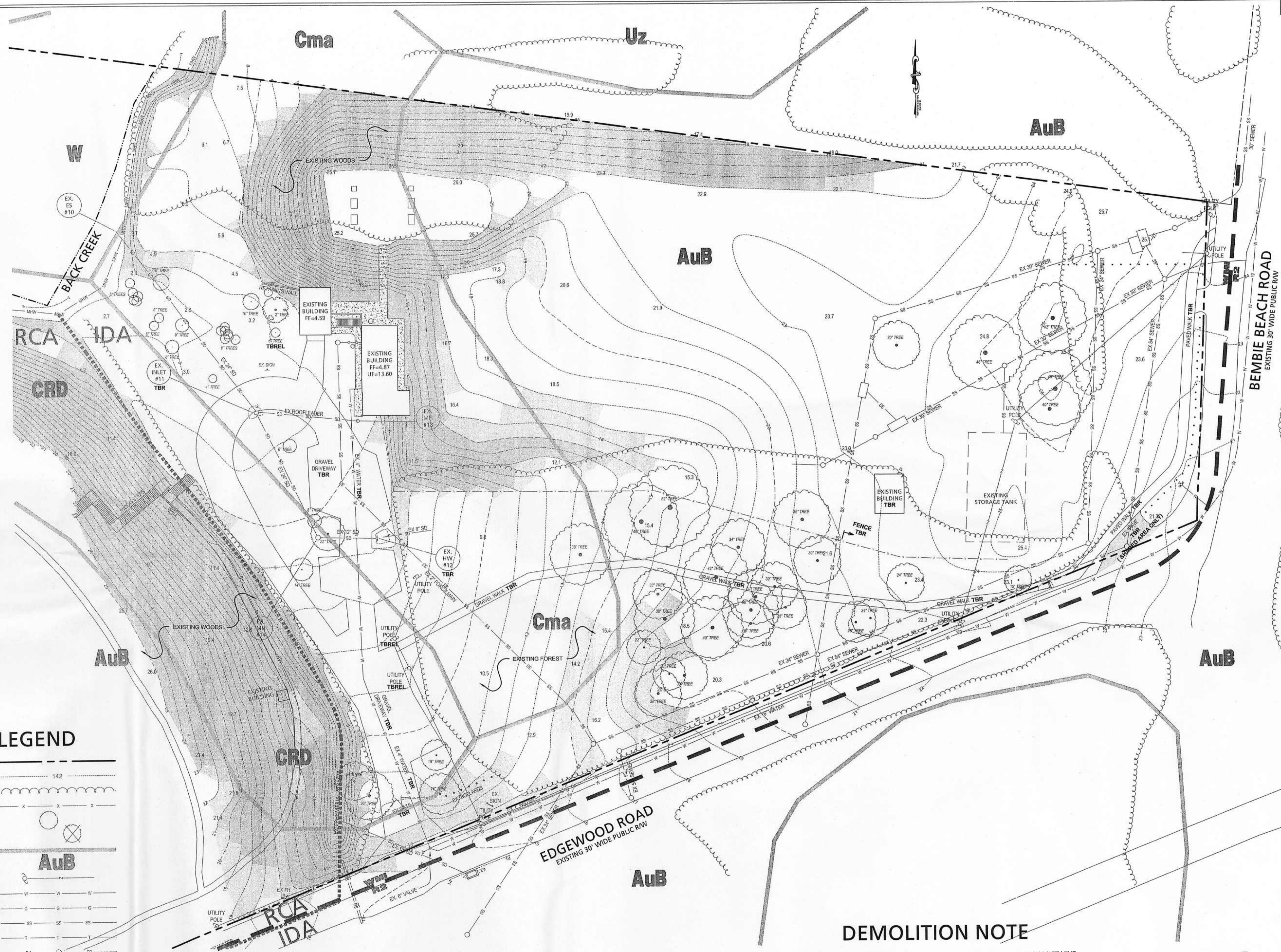
**ENVIRONMENTAL
SYSTEMS
ANALYSIS, INC.**
48 Maryland Ave., Annapolis, MD 21401
Tel 410.267.0495

**CAPUCO
CONSULTING
SERVICES, INC.**
214 Duke of Gloucester Street
Annapolis, MD 21401
Tel 410.268.3708

RECEIVED
OCT 6 2006
CRITICAL AREA COMMISSION

SHEET TITLE
**ILLUSTRATIVE
SITE PLAN**

DRAWN: JLS
APPROVED: **L-1**
PROJ. #: 2005022
SCALE: 1"=30'-0"
SEPTEMBER 2006



EXISTING SITE LEGEND

- PROPERTY LINE / RIGHT-OF-WAY
- EXISTING CONTOUR
- EXISTING WOODS
- EXISTING FENCE
- EXISTING SPECIMEN TREE
- EXISTING SPECIMEN TREE TBR
- EXISTING SOILS BOUNDARY
- EXISTING SOILS DESIGNATION
- EXISTING UTILITY POLE W/ OVERHEAD WIRE
- EXISTING WATER
- EXISTING GAS
- EXISTING SEWER
- EXISTING TELEPHONE
- EXISTING STORM DRAIN
- EXISTING MEAN HIGH WATER
- EXISTING WATER LINE
- EXISTING CRITICAL AREA BOUNDARY
- EXISTING ZONING BOUNDARY LINE
- TO BE REMOVED
- TO BE RELOCATED
- EXISTING 15% TO 25% STEEP SLOPES
- EXISTING 25% OR GREATER STEEP SLOPES

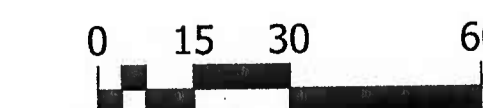
TREE PRESERVATION NOTE

REFER TO THE TREE PRESERVATION PLAN FOR TREE PROTECTION MEASURES / REQUIREMENTS, EXISTING TREES TO BE SAVED AND EXISTING TREES TO BE REMOVED. INDIVIDUAL TREES SHOWN ON THE GRADING PLANS ARE SPECIMEN TREES. REFER TO THE TREE PRESERVATION PLANS FOR ALL TREES WITHIN THE LIMIT OF DISTURBANCE AND 15' BEYOND.

DEMOLITION NOTE

1. THE EXISTING GATE AT THE ENTRANCE OF THE PARK IS TO BE REMOVED, ALONG WITH THE GRAVEL DRIVEWAY ONCE NO LONGER BEING USED AS A CONSTRUCTION ENTRANCE.
2. THE EXISTING WHEEL STOPS ARE TO BE REMOVED. THESE SHOULD NOT BE USED AT THE LOCATION OF THE PROPOSED WHEEL STOPS SHOWN ON SHEET C2.
3. EXISTING BOLLARDS TO BE REMOVED AS DIRECTED BY THE CITY DURING CONSTRUCTION.
4. THE TWO EXISTING SIGNS FOR THE PARK ARE TO REMAIN.
5. EXISTING WOOD STOCKPILE TO BE RELOCATED TO UPPER MEADOW OR AS DIRECTED BY OWNER'S REPRESENTATIVE.
6. INFORMATION PROVIDED BY THE CITY INDICATES THAT THE EXISTING UNDERGROUND TANK DOES NOT NEED TO BE REMOVED OR BACKFILLED FOR THE PROPOSED IMPROVEMENTS TO OCCUR. THE CITY ENGINEER AND/OR A GEOTECHNICAL ENGINEER SHALL BE ONSITE WHEN EARTHWORK IS DONE IN THE AREA OF THE UNDERGROUND TANK TO CONFIRM THIS AND/OR TO PROVIDE ADDITIONAL REQUIREMENTS, SUCH AS BACKFILL OR REMOVAL OF THE UNDERGROUND TANK.

RECEIVED
OCT 6 2006



**STORMWATER EDUCATION EXPERIENCE
BACK CREEK NATURE PARK**
Tax Map 12Z, Block 11, Parcel 285
Edgewood Road
City of Annapolis, Maryland
Third District Anne Arundel County

REVISIONS

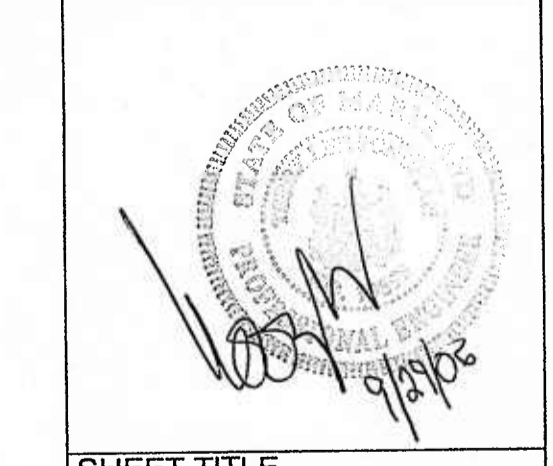
The above drawings and specifications and the titles represented thereby are and shall remain the property of the Landscape Architect. No part thereof shall be copied or used in connection with any work or project or by any other person for any purpose other than for the specific project for which they have been prepared and developed without the written consent of the Landscape Architect.

**O'DOHERTY GROUP
LANDSCAPE
ARCHITECTURE**
91 Cathedral Street, Annapolis, MD 21401
Tel 410.269.4101 or 866.500.4102

Bay Engineering Inc.
Engineers, Planners and Surveyors
190 Admiral Cochrane Drive, Suite 175
Annapolis, Maryland 21401
410.897.9290
410.897.9295 fax

**ENVIRONMENTAL
SYSTEMS
ANALYSIS, INC.**
48 Maryland Ave., Annapolis, MD 21401
Tel 410.267.0495

**CAPUCO
CONSULTING
SERVICES, INC.**
214 Duke of Gloucester Street
Annapolis, MD 21401
Tel 410.268.3706



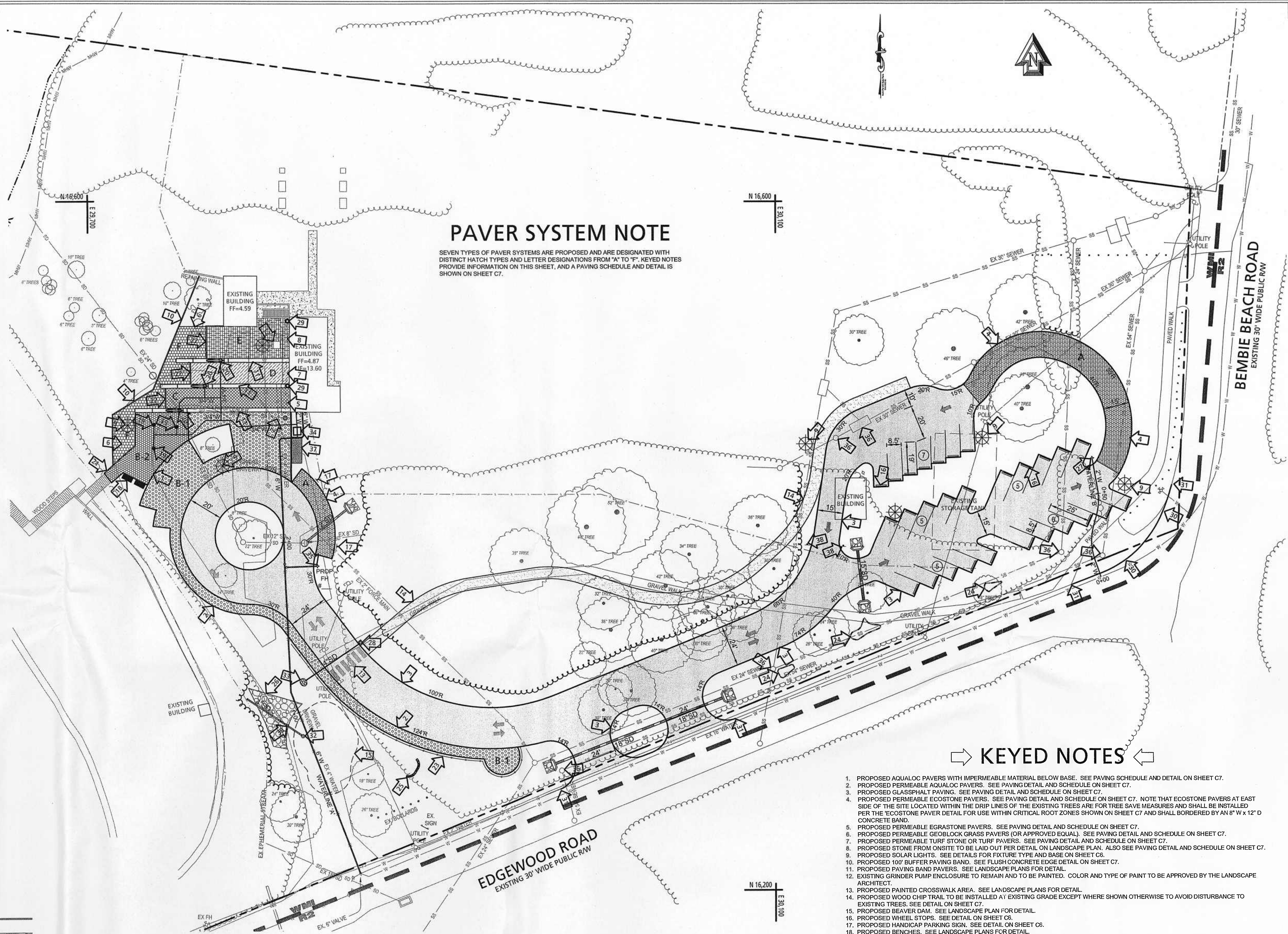
SHEET TITLE
**EXISTING
CONDITIONS
AND DEMOLITION
PLAN**

DRAWN:
DS/SC
APPROVED:
TS/SC
PROJ. #:
2005022
SCALE:
1" = 30'

SEPT. 2006

GENERAL NOTES

- PROPERTY OWNER: ANNAPOLIS CITY MAYOR AND ALDERMAN, 9 SILVERWOOD CIRCLE, ANNAPOLIS, MD 21403
- DEVELOPER: CITY OF ANNAPOLIS, 9 SILVERWOOD CIRCLE, ANNAPOLIS MD 21403, C/O LEBANN FLUMER
- LANDSCAPE ARCHITECT: THE O'DOHERTY GROUP, 91 CATHEDRAL STREET, SUITE 200, ANNAPOLIS, MARYLAND 21401, 410.269.4101, C/O SHELLEY RENTSCH
- ENGINEER: BAY ENGINEERING INC., 190 ADMIRAL COCHRANE DRIVE, SUITE 175, ANNAPOLIS, MARYLAND 21401, 410.897.9290, C/O TERRY SCHUMAN, P.E.
- THE PROPERTY IS SHOWN ON TAX MAP 12Z, BLOCK 11, PARCEL 285, BY DEED 104138. THE TRACT AREA IS 14.04 ACRES ±.
- EXISTING ZONING OF THE SITE IS WM1, WATERFRONT MARITIME INDUSTRIAL.
- THE SITE IS LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA WITHIN THE IDA (INTENSELY DEVELOPED AREA, 5.48 ACRES ±) AND RCA (RESOURCE CONSERVATION AREA, 8.56 ACRES ±). THE PROPOSED DEVELOPMENT SHOWN ON THESE PLANS FALLS ENTIRELY WITHIN THE IDA.
- SITE ADDRESS: EDGEWOOD ROAD, ANNAPOLIS, ANNE ARUNDEL COUNTY, MARYLAND 21403
- TAX ACCOUNT NO: 08-00-01407464
- THE BENCHMARK INFORMATION IS AS FOLLOWS: CITY OF ANNAPOLIS POINT #18319, N 15,885.529 E 29,048.020, ELEV = 10.822
- PROPOSED SITE UTILITIES ARE AS FOLLOWS: WATER - PUBLIC; SEWER - PUBLIC
- THE PROPERTY DESCRIBED HEREON IS LOCATED IN THE FLOOD HAZARD ZONES "A6" (AREA OF 100-YR FLOOD AT ELEV. 6), "B" (AREA BETWEEN LIMITS OF THE 100-YR FLOOD AND 500-YR FLOOD), AND "C" (AREA OF MINIMAL FLOODING) AS DELINEATED ON THE FIRM FLOOD INSURANCE RATE MAP NO. 24009-90059 DATED MAY 2, 1983 FOR CITY OF ANNAPOLIS AND DISTRIBUTED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF ANNAPOLIS "STANDARDS AND SPECIFICATIONS AND CONSTRUCTION DETAILS", DATED AUGUST, 1988 OR LATEST EDITION. ALL GRADING AND EARTHWORK CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE "MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL", LATEST EDITION. THE CONTRACTOR SHALL OBTAIN AND HAVE AVAILABLE AT THE CONSTRUCTION SITE ALL OF THESE DOCUMENTS FOR REFERENCE. IN ADDITION, THE CONTRACTOR SHALL ADHERE TO THESE PLANS, NOTES AND SPECS, AND ANY SPECIAL PROVISION SHOWN HEREON.
- FOLLOWING INITIAL SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED WITHIN: (A) SEVEN CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES GREATER THAN THREE HORIZONTAL TO ONE VERTICAL (3:1); (B) FOURTEEN CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE.
- THE OWNER / DEVELOPER SHALL REQUEST THAT MARYLAND DEPARTMENT OF THE ENVIRONMENT @ 410-414-3400, 48 HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY.
- CONTACT DEPARTMENT OF NEIGHBORHOOD AND ENVIRONMENTAL PROGRAMS (NEMP) AT 410-263-7946 AND THE DEPARTMENT OF PLANNING & ZONING (410-263-7911) AT LEAST 48 HOURS PRIOR TO COMMENCING ANY WORK ASSOCIATED WITH THE APPROVED GRADING PERMIT.
- CONTACT CITY OF ANNAPOLIS STORMWATER MANAGEMENT ENGINEER, TOM GREEN (410-263-7946) AT LEAST 48 HOURS PRIOR TO THE START OF ANY AND ALL STORMWATER MANAGEMENT DEVICES.
- THE OWNER / DEVELOPER SHALL PROVIDE FOR REGULAR INSPECTIONS, CERTIFIED BY A REGISTERED PROFESSIONAL ENGINEER, TO BE CONDUCTED DURING CONSTRUCTION OF STORMWATER MANAGEMENT SYSTEMS IN ACCORDANCE WITH ACCEPTED DESIGN PROCEDURES.
- THE DESIGN ENGINEER SHALL PROVIDE REPRODUCIBLE CERTIFIED AS-BUILTS OF STORMWATER MANAGEMENT FACILITIES AND PUBLIC IMPROVEMENTS.
- NO TREES SHALL BE PLANTED DIRECTLY OVER STORM, SEWER, OR WATER PIPES. NO TREES OR SHRUBS SHALL BE PLANTED DIRECTLY OVER ANY UNDERGROUND STORMWATER MANAGEMENT DEVICES. FIRE HYDRANTS, MANHOLES, INLETS, ETC., SHALL BE RESPONSIBILITY OF OWNER / DEVELOPER.
- ANY RE-LOCATION TO EXISTING POWER POLES, ABOVE AND UNDERGROUND WIRING AND UTILITIES, FIRE HYDRANTS, MANHOLES, INLETS, ETC., SHALL BE RESPONSIBILITY OF OWNER / DEVELOPER.
- THERE SHALL BE NO LANDSCAPE OBSTRUCTIONS AT ANY INTERSECTIONS.
- ALL NEW POWER LINES, TELEPHONE LINES AND CABLE TV LINES SHALL BE UNDERGROUND.
- CONTACT "MISS UTILITY" AT 1-800-257-7777 AT LEAST 48 HOURS IN ADVANCE OF ANY EXCAVATION (IF APPLICABLE).
- THE CONTRACTOR SHALL NOT START ANY CONSTRUCTION WORK OR EQUIPMENT BEFORE 7:00 A.M. AND MUST FINISH NO LATER THAN DUSK. NO OUTSIDE SUNDAY WORK.
- CONTACT: CHIEF BUILDING INSPECTOR - TOM SWONTEK @ 410-263-7946, PLUMBING INSPECTOR - JOHN QUIGLEY @ 410-263-7946, STORMWATER MANAGEMENT ENGINEER - TOM GREEN @ 410-263-7946 FOR PAVING, CURBS, CUTTERS, SIDEWALK, SOME UTILITIES, AND ALL BLOCKING PERMITS, PUBLIC WORKS INSPECTOR - RODGER MALJSTER @ 410-263-7949, ENVIRONMENTAL MANAGEMENT - MARISA CALISTI @ 410-263-7940, ASSISTANT SUPERINTENDENT OF UTILITIES - MIKE BURKER @ 410-263-7970, PUBLIC WORKS SUPERINTENDENT - ROBERT COUCHENOUR, SR. @ 410-263-7987, PRETREATMENT INSPECTOR - CHADY TAIT @ 410-263-7940, FIRE MARSHAL - CHIEF GEORGE ELLIS @ 410-263-7975, ELECTRICAL INSPECTOR - CLINT PRATT @ 410-263-7946 HEALTH DEPARTMENT INSPECTOR - CHARLES STINCHCOMB @ 410-222-7239.
- NO BUILDING CONSTRUCTION MAY ENCLOSED UPON ANY UTILITY, LANDSCAPE OR CONSERVATION EASEMENTS.
- SEPARATE PERMITS WILL BE REQUIRED FOR BUILDING, STREET OPENING, SIGNAGE, FUEL TANKS, CURB CUTS, FENCING, DEMOLITION AND GRADING.
- ALL CONTRACTORS, SUBCONTRACTORS, ELECTRICAL, MECHANICAL, GAS, PLUMBING AND UTILITY CONTRACTORS SHALL BE MARYLAND STATE LICENSED. GAS, ELECTRIC, PLUMBING AND UTILITY CONTRACTORS SHALL ALSO CARRY A CITY OF ANNAPOLIS LICENSE.
- ALL EXISTING STREET LIGHTS, FIRE HYDRANTS, WATER LINES, SEWER LINES, STORM LINES, GAS LINES, METERS, CLEANOUTS SHALL BE INSPECTED, EVALUATED AND REFINISHED AS REQUIRED TO MEET CITY STANDARDS AND ALL APPLICABLE CODES. ALL SEWER AND STORM LINES SHALL BE "CLEANED OUT" AS REQUIRED AND MADE OPERATIONAL. ALL COSTS FOR THE WORK IS THE RESPONSIBILITY OF OWNER/DEVELOPER.
- ALL WORK MUST MEET BUILDING CODES, FIRE CODES, MECHANICAL/ELECTRICAL, STRUCTURAL, PLUMBING CODES, CHEMICAL PRETREATMENT, MARYLAND SAFETY GRAZING LAWS, DISABILITY CODES AND ANY CITY ORDINANCES.
- ALL EXCAVATION TO BE INSPECTED PRIOR TO ANY BACKFILL.
- BURNING AND BURYING OF MATERIALS ON SITE IS PROHIBITED.
- ALL ROADWAY SIGNS SHALL MEET CITY STANDARDS. COORDINATE TRAFFIC CONTROL WITH LARRY MOORE @ 410-263-7967. ALL SIGNS SHALL BE FURNISHED AND INSTALLED BY OWNER.
- SEE SHEET C5 FOR STANDARD RESPONSIBILITY NOTES.



PAVER SYSTEM NOTE

SEVEN TYPES OF PAVER SYSTEMS ARE PROPOSED AND ARE DESIGNATED WITH DISTINCT HATCH TYPES AND LETTER DESIGNATIONS FROM "A" TO "G". KEYED NOTES PROVIDE INFORMATION ON THIS SHEET, AND A PAVING SCHEDULE AND DETAIL IS SHOWN ON SHEET C7.

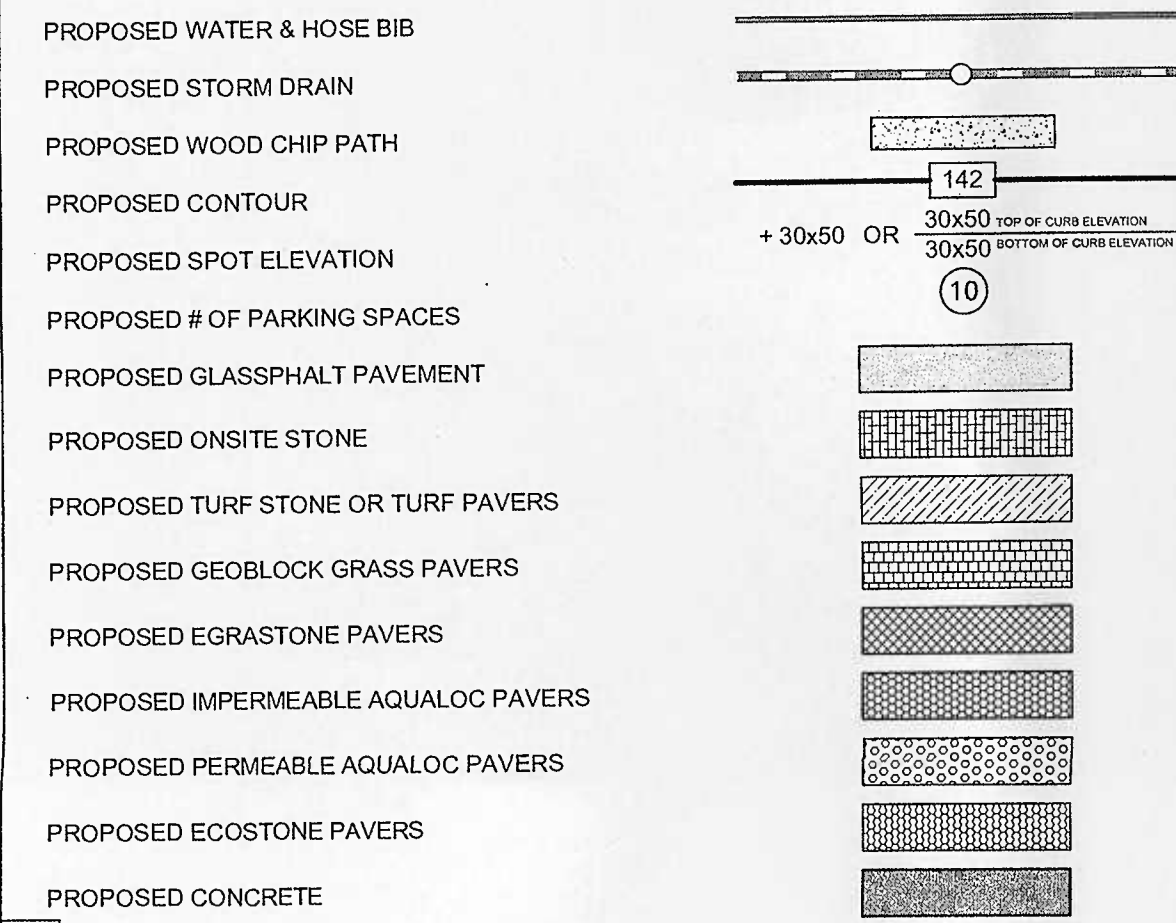
KEYED NOTES

- PROPOSED AQUALOC PAVERS WITH IMPERMEABLE MATERIAL BELOW BASE. SEE PAVING SCHEDULE AND DETAIL ON SHEET C7.
- PROPOSED PERMEABLE AQUALOC PAVERS. SEE PAVING DETAIL AND SCHEDULE ON SHEET C7.
- PROPOSED GLASSHALT PAVING. SEE PAVING DETAIL AND SCHEDULE ON SHEET C7.
- PROPOSED PERMEABLE ECOSTONE PAVERS. SEE PAVING DETAIL AND SCHEDULE ON SHEET C7. NOTE THAT ECOSTONE PAVERS AT EAST SIDE OF THE SITE LOCATED WITHIN THE DRIP LINES OF THE EXISTING TREES ARE FOR TREE SAVE MEASURES AND SHALL BE INSTALLED PER THE ECOSTONE PAVES DETAIL FOR USE WITHIN CRITICAL ROOT ZONES SHOWN ON SHEET C7 AND SHALL BE BORDERED BY AN 8" W x 12" D CONCRETE BAND.
- PROPOSED PERMEABLE EGRASTONE PAVERS. SEE PAVING DETAIL AND SCHEDULE ON SHEET C7.
- PROPOSED PERMEABLE GEOBLOCK GRASS PAVERS (OR APPROVED EQUAL). SEE PAVING DETAIL AND SCHEDULE ON SHEET C7.
- PROPOSED PERMEABLE TURF STONE OR TURF PAVERS. SEE PAVING DETAIL AND SCHEDULE ON SHEET C7.
- PROPOSED STONE FROM ON-SITE TO BE LAID OUT PER DETAIL ON LANDSCAPE PLAN. ALSO SEE PAVING DETAIL AND SCHEDULE ON SHEET C7.
- PROPOSED STONE FROM ON-SITE TO BE LAID OUT PER DETAIL ON LANDSCAPE PLAN. ALSO SEE PAVING DETAIL AND SCHEDULE ON SHEET C7.
- PROPOSED 100' BUFFER PAVING BAND. SEE FLUSH CONCRETE EDGE DETAIL ON SHEET C7.
- PROPOSED PAVING BAND PAVERS. SEE LANDSCAPE PLANS FOR DETAIL.
- EXISTING GRINDER PUMP ENCLOSURE TO REMAIN AND TO BE PAINTED. COLOR AND TYPE OF PAINT TO BE APPROVED BY THE LANDSCAPE ARCHITECT.
- PROPOSED PAINTED CROSSWALK AREA. SEE LANDSCAPE PLANS FOR DETAIL.
- PROPOSED WOOD CHIP TRAIL TO BE INSTALLED AT EXISTING GRADE EXCEPT WHERE SHOWN OTHERWISE TO AVOID DISTURBANCE TO EXISTING TREES. SEE DETAIL ON SHEET C7.
- PROPOSED BEAVER DAM. SEE LANDSCAPE PLAN FOR DETAIL.
- PROPOSED WHEEL STOPS. SEE DETAIL ON SHEET C6.
- PROPOSED HANDICAP PARKING SIGN. SEE DETAIL ON SHEET C6.
- PROPOSED BENCHES. SEE LANDSCAPE PLANS FOR DETAIL.
- PROPOSED PEDESTAL MISTERS. SEE DETAIL ON SHEET C6.
- PROPOSED YARD HYDRANTS. SEE DETAIL ON SHEET C7. NOTE THAT THE ONE YARD HYDRANT / SEDIMENT EROSION CONTROL SEQUENCE LOCATED FARTHEST SOUTH SHALL HAVE A MODIFIED FOOTING AS SHOWN ON SHEET C7 DUE TO EXISTING STORM DRAIN BELOW IT.
- PROPOSED DRIP EDGING DETAIL. SEE DETAIL ON SHEET C7.
- PROPOSED FLUSH CONCRETE BAND DETAIL. SEE DETAIL ON SHEET C7.
- PROPOSED MANHOLE. SEE LANDSCAPE PLANS FOR DETAIL.
- PROPOSED MICROPOOL. SEE SWALE PROFILE ON SHEET C6 FOR LOCATIONS. MICROPOOLS SHALL BE 1' DEEP WITH SIDE SLOPES @ 2:1. EACH MICROPOOL TO BE PLANTED AS SHOWN ON THE LANDSCAPE PLANS.
- PROPOSED CONCRETE CHECK DAM. SEE DETAIL ON SHEET C6.
- PROPOSED MIMBRICATED STONE. REFER TO BEAVER DAM DETAILS ON LANDSCAPE PLANS FOR FURTHER INFORMATION.
- PROPOSED MAIN GUARD MODEL NO. 77 WATER SOURCE FOR DEMONSTRATION PURPOSES. SEE DETAIL ON SHEET C7.
- 15" IN-LINE DRAIN FOR DEMONSTRATION PURPOSES ONLY.
- PROPOSED RAIN BARREL. REFER TO LANDSCAPE PLANS FOR TYPE & MANUFACTURER.
- PROPOSED EDGE OF PAVEMENT.
- MATCH EXISTING EDGE OF PAVEMENT.
- PROPOSED EMERGENCY UNDERDRAIN FOR PERMANENT POOL OF BEAVER DAM.
- PROPOSED WHITE MARBLE STONE PAD FOR DISCHARGE OF DEMONSTRATION INLET. SEE PROFILE ON SHEET C6 FOR DETAILS.
- PROPOSED 2" WATER METER VAULT PER CITY OF ANNAPOLIS STD. DETAIL W.8.0. CONTRACTOR TO INSTALL VAULT ONLY. METER NOT PART OF THIS CONTRACT.
- PROPOSED FIRE HYDRANT PER CITY OF ANNAPOLIS STD. DETAIL W.15.0.
- EXISTING SEWER MANHOLE RIMS TO BE LOWERED/RAISED TO PROPOSED GRADE. MANHOLES WITHIN GRASS CHANNEL SHALL BE WATER TIGHT PER CITY OF ANNAPOLIS STANDARD DETAIL S3.0.
- PROPOSED 15x8" CONCRETE PAD FOR BICYCLE STORAGE RACKS. SEE CONCRETE PAD DETAIL SHEET C7. SEE LANDSCAPE PLANS FOR BIKE RACK SPECIFICATIONS.
- PROPOSED "DO NOT ENTER" SIGN. SEE TRAFFIC SIGNAGE DETAIL ON SHEET C6 FOR INSTALLATION.
- EMERGENCY DRAIN VALVE FOR BEAVER DAM. SEE PROFILE SHEET C6.

PROPOSED 3/4" WATERLINE NOTE

THE TWO PROPOSED 3/4" WATERLINES THAT FEED THE MISTERS AND WATER PUMPS IN THE COURTYARD AREA SHALL BE INSTALLED WITH A MINIMUM 4" OF COVER AND 1" OF CLEARANCE WITH OTHER UTILITIES. IF THE WATERLINE MUST BE INSTALLED BELOW AN EXISTING UTILITY TO MAINTAIN 4" MIN COVER, THE WATERLINE SHALL BE ENCASED IN CONCRETE (MIN. 6" FROM OUTER EDGE OF PIPE) 10" ON EITHER SIDE OF CROSSING.

PROPOSED SITE LEGEND



**STORMWATER EDUCATION EXPERIENCE
BACK CREEK NATURE PARK**
Tax Map 1 2Z, Block 11, Parcel 285
Edgewood Road
City of Annapolis, Maryland
Anne Arundel County

REVISIONS

The above drawings and specifications and the ideas represented thereby are and shall remain the property of the Landscape Architect. No part thereof shall be copied or used in connection with any work or project or by any other person for any purpose other than for the specific project for which they have been prepared and developed without the written consent of the Landscape Architect.

**O'DOHERTY GROUP
LANDSCAPE
ARCHITECTURE**
91 Cathedral Street, Annapolis, MD 21401
Tel 410.269.4101 or 866.500.4102

Bay Engineering Inc.
Engineers, Planners and Surveyors
190 Admiral Cochrane Drive, Suite 175
Annapolis, Maryland 21401
410.897.9290
410.897.9295 fax

**ENVIRONMENTAL
SYSTEMS
ANALYSIS, INC.**
48 Maryland Ave., Annapolis, MD 21401
Tel 410.267.0495

**CAPUCO CONSULTING
SERVICES, INC.**
214 Duke of Gloucester Street
Annapolis, MD 21401
Tel 410.268.3706

STATE OF MARYLAND
Professional Seal of Terry Schuman, P.E.

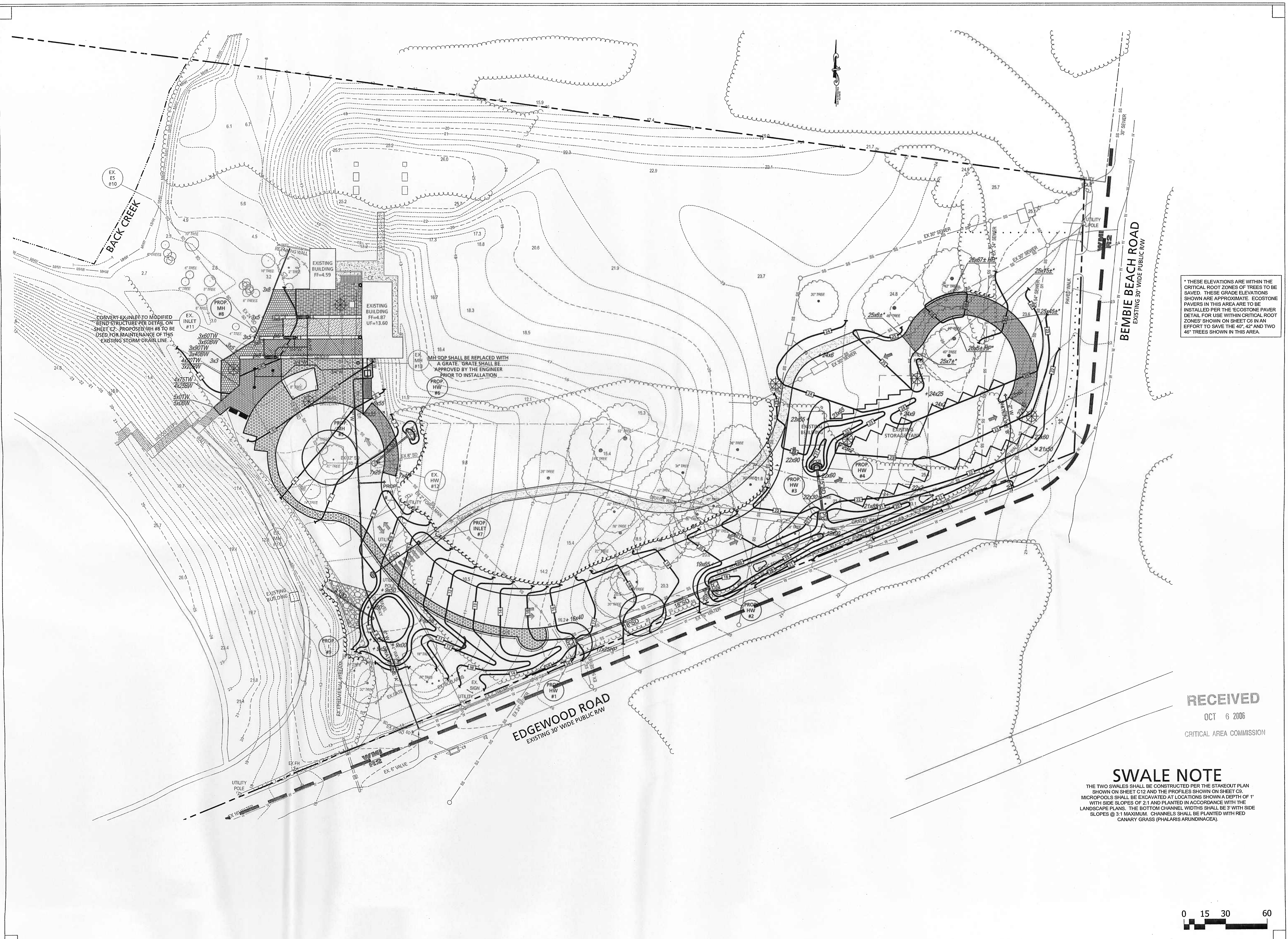
SHEET TITLE
**SITE &
UTILITY
PLAN**

DRAWN: DS/SC
APPROVED: TS/SC
PROJ. #: 2005022
SCALE: 1" = 30'
C2

SEP. 2006

RECEIVED
OCT 6 2006
CRITICAL AREA COMMISSION





* THESE ELEVATIONS ARE WITHIN THE CRITICAL ROOT ZONES OF TREES TO BE SAVED. THESE GRADE ELEVATIONS SHOWN ARE APPROXIMATE. ECOSTONE PAVERS IN THIS AREA ARE TO BE INSTALLED PER THE ECOSTONE PAVEMENT DETAIL FOR USE WITHIN CRITICAL ROOT ZONES SHOWN ON SHEET C2 IN AN EFFORT TO SAVE THE 40", 42" AND TWO 46" TREES SHOWN IN THIS AREA.

**STORMWATER EDUCATION EXPERIENCE
BACK CREEK NATURE PARK**
Tax Map 12Z, Block 11, Parcel 285
Edgewood Road
City of Annapolis, Maryland
Third District Anne Arundel County

REVISIONS

The above drawings and specifications and the ideas represented thereby are and shall remain the property of the Landscape Architect. No part thereof shall be copied or used in connection with any work or project or by any other person for any purpose other than for the specific project for which they have been prepared and developed without the written consent of the Landscape Architect.

**O'DOHERTY GROUP
LANDSCAPE
ARCHITECTURE**
91 Cathedral Street, Annapolis, MD 21401
Tel 410.269.4101 or 866.500.4102

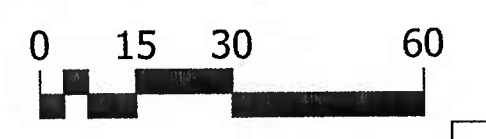
Bay Engineering Inc.
Engineers, Planners and Surveyors
190 Admiral Cochrane Drive, Suite 175
Annapolis, Maryland 21401
410.897.9290
410.897.9295 fax

**ENVIRONMENTAL
SYSTEMS
ANALYSIS, INC.**
48 Maryland Ave., Annapolis, MD 21401
Tel 410.267.0495

**CAPUCO
CONSULTING
SERVICES, INC.**
214 Duke of Gloucester Street
Annapolis, MD 21401
Tel 410.268.3706

RECEIVED
OCT 6 2006
CRITICAL AREA COMMISSION

SWALE NOTE
THE TWO SWALES SHALL BE CONSTRUCTED PER THE STAKEOUT PLAN SHOWN ON SHEET C12 AND THE PROFILES SHOWN ON SHEET C3. MICROPOOLS SHALL BE EXCAVATED AT LOCATIONS SHOWN A DEPTH OF 1' WITH SIDE SLOPES OF 2:1 AND PLANTED IN ACCORDANCE WITH THE LANDSCAPE PLANS. THE BOTTOM CHANNEL WIDTHS SHALL BE 3' WITH SIDE SLOPES @ 3:1 MAXIMUM. CHANNELS SHALL BE PLANTED WITH RED CANARY GRASS (PHALARIS ARUNDINACEA).



SHEET TITLE
**GRADING AND
STORM DRAIN
PLAN**

DRAWN:
DS/SC
APPROVED:
TS/SC
PROJ. #:
2006022
SCALE:
1" = 30'
C3

SEPT. 2006



EXISTING SITE LEGEND

PROPERTY LINE / RIGHT-OF-WAY	---
EXISTING CONTOUR	142
EXISTING WOODS	~~~~~
EXISTING FENCE	---X---
EXISTING SPECIMEN TREE W/ CRITICAL ROOT ZONE	○
EXISTING SPECIMEN TREE TBR	⊗
EXISTING SOILS BOUNDARY	---
EXISTING SOILS DESIGNATION	W
EXISTING UTILITY POLE W/ OVERHEAD WIRE	○
EXISTING WATER	—W—W—W—
EXISTING GAS	—G—G—G—
EXISTING SEWER	—SS—SS—SS—
EXISTING TELEPHONE	—T—T—T—
EXISTING STORM DRAIN	—SD—SD—SD—
EXISTING MEAN HIGH WATER	—MHW—MHW—MHW—
EXISTING WATER LINE	---
EXISTING CRITICAL AREA BOUNDARY	---
TO BE REMOVED	TBR
TO BE RELOCATED	TBREL

PROPOSED SITE LEGEND

PROPOSED WATER & HOSE BIB	---
PROPOSED STORM DRAIN	---
PROPOSED WOOD CHIP PATH	---
PROPOSED CONTOUR	---
PROPOSED SPOT ELEVATION	142
PROPOSED # OF PARKING SPACES	+ 30x50 OR 30x50 TOP OF CURB ELEVATION 30x50 BOTTOM OF CURB ELEVATION
PROPOSED GRASSPALT PAVEMENT	10

EROSION CONTROL LEGEND

LIMIT OF DISTURBANCE	---
REINFORCED SILT FENCE	---RSF---RSF---RSF---
SUPER SILT FENCE	---SSF---SSF---SSF---
INLET PROTECTION	IP
TREE PROTECTION FENCE	---TPF---TPF---TPF---
STABILIZED CONSTRUCTION ENTRANCE	---
TEMPORARY STONE CHECK DAM	---

SWALE & SLOPE STABILIZATION NOTE

ALL SLOPES @ 3:1 OR STEEPER AND ALL SWALES SHALL BE STABILIZED WITH EROSION CONTROL MATTING PER THE DETAIL ON SHEET CS.

RECEIVED

OCT 6 2006

CRITICAL AREA COMMISSION



**STORMWATER EDUCATION EXPERIENCE
BACK CREEK NATURE PARK**
Tax Map 12z, Block 1.1, Parcel 285
Edgewood Road
City of Annapolis, Maryland
Anne Arundel County
Third District

REVISIONS

The above drawings and specifications and the ideas represented thereby are and shall remain the property of the Landscape Architect. No part thereof shall be copied or used in connection with any work or project or by any other person for any purpose other than for the specific project for which they have been prepared and developed without the written consent of the Landscape Architect.

**O'DOHERTY GROUP
LANDSCAPE
ARCHITECTURE**
91 Cathedral Street, Annapolis, MD 21401
Tel 410.268.4101 or 866.500.4102

Bay Engineering Inc.
Engineers, Planners and Surveyors
190 Admiral Cochrane Drive, Suite 175
Annapolis, Maryland 21401
410.897.9290
410.897.9295 fax

**ENVIRONMENTAL
SYSTEMS
ANALYSIS, INC.**
48 Maryland Ave., Annapolis, MD 21401
Tel 410.267.0495

**CAPUCO
CONSULTING
SERVICES, INC.**
214 Duke of Gloucester Street
Annapolis, MD 21401
Tel 410.268.3706

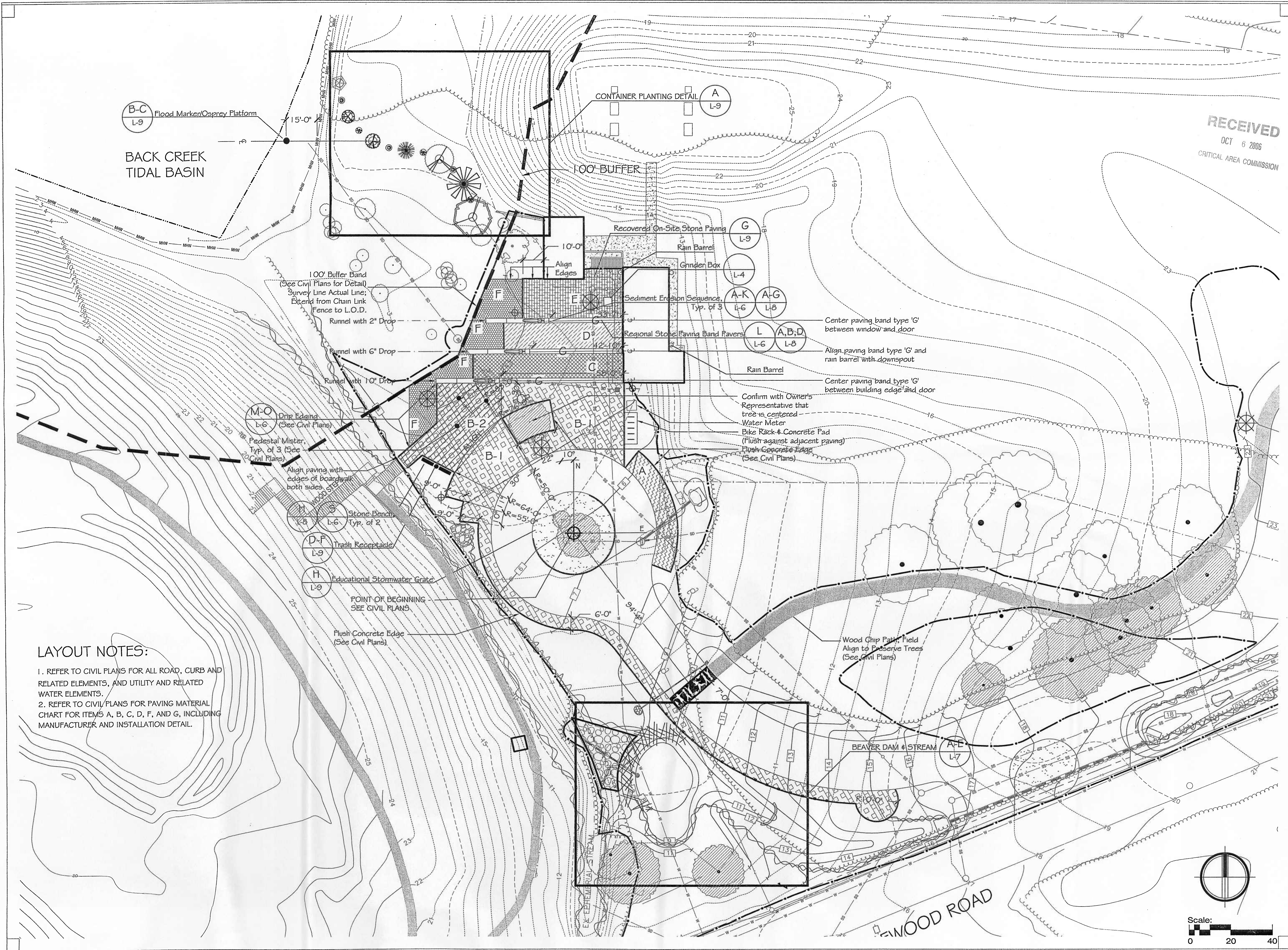


SHEET TITLE
**SEDIMENT
EROSION
CONTROL
PLAN**

DRAWN:
DS/SC
APPROVED:
TS/SC
PROJ. #
2005022
SCALE:
1" = 30'

C4

SEPT. 2006



B-C Flood Marker/Osprey Platform
L-9

BACK CREEK TIDAL BASIN

CONTAINER PLANTING DETAIL
A
L-9

100' BUFFER

Recovered On-Site Stone Paving

G
L-9

Rain Barrel

Grinder Box

Sediment Erosion Sequence
Typ. of 3

A-K
L-6

A-G
L-8

Regional Stone Paving Band Pavers

L
L-6

A,B,D
L-8

Center paving band type 'G' between window and door

Align paving band type 'G' and rain barrel with downspout

Rain Barrel

Center paving band type 'G' between building edge and door

Confirm with Owner's Representative that trees centered

Water Meter

Bike Rack & Concrete Pad

Flush Concrete Edge

(See Civil Plans)

100' Buffer Band
(See Civil Plans for Detail)
Survey Line Actual Line;
Extend from Chain Link
Fence to L.O.D.

Runnel with 2" Drop

Runnel with 6" Drop

Runnel with 10" Drop

M-O Drip Edging
(See Civil Plans)
L-6

Pedestal Mister
Typ. of 3 (See Civil Plans)

Align paving with edges of boardwalk both sides

K-B Stone Bench
L-6
Typ. of 2

D-F Trash Receptacle
L-9

H Educational Stormwater Grate
L-9

POINT OF BEGINNING
SEE CIVIL PLANS

Flush Concrete Edge
(See Civil Plans)

Wood Chip Path Field
Align to Preserve Trees
(See Civil Plans)

BEAVER DAM & STREAM
A-E
L-7

LAYOUT NOTES:

1. REFER TO CIVIL PLANS FOR ALL ROAD, CURB AND RELATED ELEMENTS, AND UTILITY AND RELATED WATER ELEMENTS.
2. REFER TO CIVIL PLANS FOR PAVING MATERIAL CHART FOR ITEMS A, B, C, D, F, AND G, INCLUDING MANUFACTURER AND INSTALLATION DETAIL.

RECEIVED
OCT 6 2006
CRITICAL AREA COMMISSION

STORMWATER EDUCATION EXPERIENCE
BACK CREEK NATURE PARK
Tax Map 12Z, Block 11, Parcel 285
Edgewood Road
City of Annapolis, Maryland
Third District Anne Arundel County

REVISIONS

The above drawings and specifications and the ideas represented thereby are and shall remain the property of the Landscape Architect. No part thereof shall be copied or used in connection with any work or project or by any other person for any purpose other than for the specific project for which they have been prepared and delivered without the written consent of the Landscape Architect.

O'DOHERTY GROUP
LANDSCAPE
ARCHITECTURE
91 Cathedral Street, Annapolis, MD 21401
Tel 410.269.4101 or 888.500.4102

Bay Engineering Inc.
Engineers, Planners and Surveyors
190 Admiral Cochrane Drive, Suite 175
Annapolis, Maryland 21401
410.897.9290
410.897.9295 fax

ENVIRONMENTAL
SYSTEMS
ANALYSIS, INC.
48 Maryland Ave., Annapolis, MD 21401
Tel 410.267.0495

CAPUCO
CONSULTING
SERVICES, INC.
214 Duke of Gloucester Street
Annapolis, MD 21401
Tel 410.268.3708

SHEET TITLE

LAYOUT
PLAN

DRAWN:
JLS
APPROVED:
L-3
PROJ. #:
2005022
SCALE:
1"=20'-0"
SEPTEMBER 2006

